

AIRLAB^{DT}

a reliable choice to go on-air



P R O D U C T I O N | O N - A I R C O N S O L E

16 module positions
Modern D(rop) T(hrough design)
Music Play-out Control Module
Program and Sub busses

Ideal for production and On-AIR
USB, Digital, Telco, WiFi and VoIP
Bi directional Cue communication buss
Software metering



A Well Proven Broadcast Mixer

The AIRLAB DT radio ON-AIR console by D&R offers a balance between advanced features and user-friendly operation. It boasts a straightforward control surface paired with intelligent digital functions that can be easily customized to suit station or individual preferences. This customization is facilitated by personalized chip cards that store essential functional data. The console's design allows for easy expansion and configuration. Its welded steel drop-through frame supports up to 16 triple input modules with EQ, along with additional modules such as digital AES/EBU in/output, USB, Control, Telco (up to 16), VoIP and WiFi Phone Channels soon, plus master section. Key features include electronically balanced main outputs (with transformer balancing available as an option) and balanced XLR connectors for most connections. With a proven track record of over 1000 consoles sold, this mixing console is known for its popularity and reliability in the field.



TRIPLE INPUT MODULE

The AIRLAB-DT triple input module is designed to offer versatile input options for broadcasting needs:

Mic Input: Equipped with a high-quality mic input featuring the industry-standard THAT 1510 mic preamp, ensuring extremely low noise performance. It includes a 48-volt phantom power switch for condenser microphones. Additionally, there's a front-panel accessible trimmer for precise mic gain adjustment, along with the option to activate a low-cut filter via a jumper on the PCB. The balanced mic input is located at the back of the console on female XLR connectors.

Stereo Line Inputs: The module includes two stereo line inputs. The unbalanced stereo line B input, accessible via Cinch connectors, can be fitted with an RIAA plug-in PCB to accept phono players. The Line A input is balanced and utilizes female XLR connectors.

Module Options: Users have the flexibility to choose between Triple Input modules, USB modules, and a digital in/output module, all of which share the same front controls. When USB or AES-3 modules are selected, Line B and its associated LED are inactive, while Line A is replaced by Stereo USB or AES-3 signals. Up to four USB channels can be loaded to be routed to an internal 4-way hub.

Equalizer: The module features a fixed three-band equalizer with +/- 12dB range, followed by a SUB and PROGRAM assign switch that routes signals to both outputs, facilitating production work during broadcast.

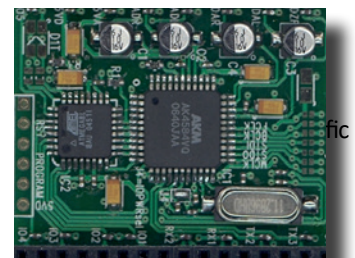
Auxiliary Control: The stereo Aux control offers pre or post VCA/ MUTE selection, depending on jumper settings on the PCB. It includes a Pan control, a CUE/SELECT switch, and a channel ON switch that disables Cue, though it can be reactivated while the channel is on.

Cue Feature: Cue can be activated via the channel remote and serves as a Cough feature when both the Mic input and the "ON-AIR" status are selected, allowing for convenient monitoring and control during broadcasts.

The AIRLAB features linear K-ALPS 100mm faders that control high-quality VCA's (Voltage Controlled Amplifiers), ensuring smooth and precise control over audio levels. The start function can be activated either by the fader or the ON switch, depending on which is activated first, providing flexibility in operation.

Additionally, the start function can be software configured to switch from either line A or line B, allowing users to tailor the console to their specific needs and workflow preferences.

Similarly, the Cue switch is under software control, preventing impossible settings and ensuring seamless operation during broadcasts. This software-controlled configuration enhances the usability and efficiency of the console, providing users with a streamlined experience.



Digital in/output pcb

Another Superb Broadcast Solution

TELCO, WPC or VoIP MODULE.

The AIRLAB-DT frame offers the option to load up to 16 Telco modules, featuring an innovative Mix-Minus system that simplifies alignment, requiring alignment only during installation.

The Telco module itself is designed for straightforward communication. Here's a breakdown of its features:

R BAL Trimmer: A front-panel accessible trimmer for side tone adjustment, necessary only during installation.

Telco Send Knob: Controls the outgoing signal to the caller, sourced from the PROGRAM or SUB bus.

Line Input: Switchable to a balanced XLR input connector to accommodate an external hybrid instead of using the internal one. The "Connect" LED indicates when the internal hybrid is active.

Input Gain Control: Features high pass and low pass filters to enhance intelligibility.

SUB and PROGRAM Assign Switch: Routes the signal to both outputs if necessary.

Stereo Aux Control: Jumpers select its source to be pre or post VCA/MUTE.

Pan-Pot, CUE/SELECT Switch, and ON Switch: Complete the Telco module's controls.

100mm Linear Fader: Controls a high-quality VCA, ensuring longevity and eliminating fader degradation over time.

Call Handling: A phone call can be taken with the ON switch when the fader is up, or with the CUE/SELECT switch when the fader is down. When CUE is active in the TELCO module, the caller is connected to the CUE bus and the engineer's talk-back but doesn't go ON-AIR as long as the fader is down.

Remote Connectivity: Both the CUE and ON switch can be connected to a Studio Remote unit, allowing a director to control the broadcast remotely.

CENTRALISED MASTER SECTION WITH PROGRAMMABLE UTILITIES AND SCRIPT SPACE.

TAPE SEND Controls:

These controls allow the selection of the feed to the TAPE output. Users can choose between the SUB output signal or the AUX output signal for recording purposes.

Stereo Aux Master Controls:

This section manages the Aux signals from the input modules. It also includes a Talk-back to AUX feature, facilitating communication with auxiliary devices or channels.

Control Room Monitor:

Allows users to monitor various audio sources. These sources include an EXT(ernal) stereo input, the stereo Aux output, a stereo ON-Air signal, or the stereo SUB output signal. LED indicators accompany each selection, and the switch at the lowest position takes priority over the input switches above it, ensuring clear and efficient monitoring.

UNIVERSAL INPUT CONNECTOR PANEL.

All Channel modules use the same input connector panel. XLR inputs are balanced except for the Cinch connector. The INSERT is for voice processors.

The Start jack sends out signals from the fader/On start if the optional control module is present. In that case all control info is handled by the USB HID protocol. The REMOTE is for our Studio Remote unit to communicate. INSERT is a mic insert that can be used for voice processors.

The XLR LINE A Left and right are not present in case of a USB or Digital module. The RCA/Cinch connectors are also not active in case of a USB or Digital module. Only MIC|USB or MIC|AES3 is available then.



You Want Reliability?

OUTPUTS OF THE AIRLAB-DT.

Output Selection: All outputs receive the signal selected by the input selection switches, or the Program output signal when no switch is activated. This flexibility allows users to route audio signals as needed for different broadcasting scenarios.

Studio Output Mute LED: The Studio output is equipped with a mute LED indicator, providing visual feedback when the output is muted, ensuring clarity in operation.

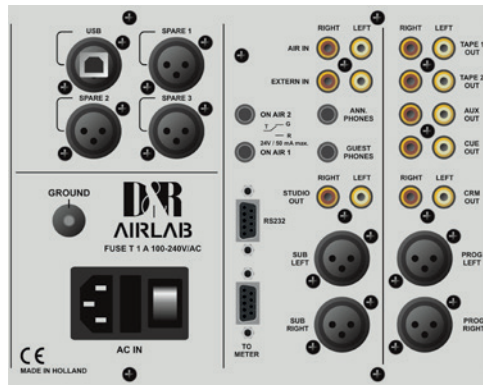
Talkback Access Switch: Each output features a direct Talkback access switch, enabling instant communication between the control room and presenter's area, enhancing collaboration and coordination during broadcasts.

Cue Bus: The Cue bus serves as the main communication bus in the console. When a listener calls the station, pushing the Cue switch of the Telco module directly routes them to the control room monitors. Simultaneously, the internal electret microphone is activated, enabling immediate response from the announcer.

Additionally, the Studio Remote Communication button links the announcer to the same Cue bus, facilitating seamless communication among multiple parties.

Software Meter Application:

The AIRLAB-DT includes a software meter application, with two meters always connected to the main outputs. Two additional meters follow whatever is heard on the CRM (Control Room Monitor).



SOFTWARE CONTROLLABLE SET-UP CAN BE STORED ON A CHIP CARD.

A speciality of the AIRLAB-DT is its ability to program all sorts of internal settings and then save it to a personalised chip card for instant reset. A chipcard is part of the delivery and many can be purchased later for more personal DJ settings. The following settings can be programmed.

- * Module set as DJ mic input
- * Module set as Announcer mic input
- * Module set as Studio mic input
- * Start/Stop plus Pulse/Cont per module
- * Cue start active
- * Fader start or "ON" start per module
- * External remote (in)active per module
- * Timer start pulse per module
- * On-Air control signal on/off per module
- * Auto communication Announcer on/off
- * Auto CUE reset on/off
- * Auto CUE on/off

USB CONTROL SECTION.

On the optional Control Module of the AIRLAB-DT mixer you see 24 illuminated (green/red or yellow) switches and one Encoder.

These switches can be used to control functions in your Radio Automation such as starting jingles and switching between live and NON-STOP. The Software is available from our wiki service pages.

Recording a voice track while ON-AIR is one of the possibilities. The USB control software, part of the package, can be easily programmed by yourself, to make radio even more exciting.

Any switch can perform a function of your play-out software that you decide would be convenient to control. As a feedback of the action the switches can light up green/red or yellow.

The AIRLAB-DT has several internal switched mode power supplies that can handle any input AC voltage between 90 and 230 volts. Power supply redundancy is an option with an optional extra power input connector. The AIRLAB-DT frame can be easily mounted inside furniture as a drop through unit with rounded off corners to make a nice fit with a scriptspace in the middle.



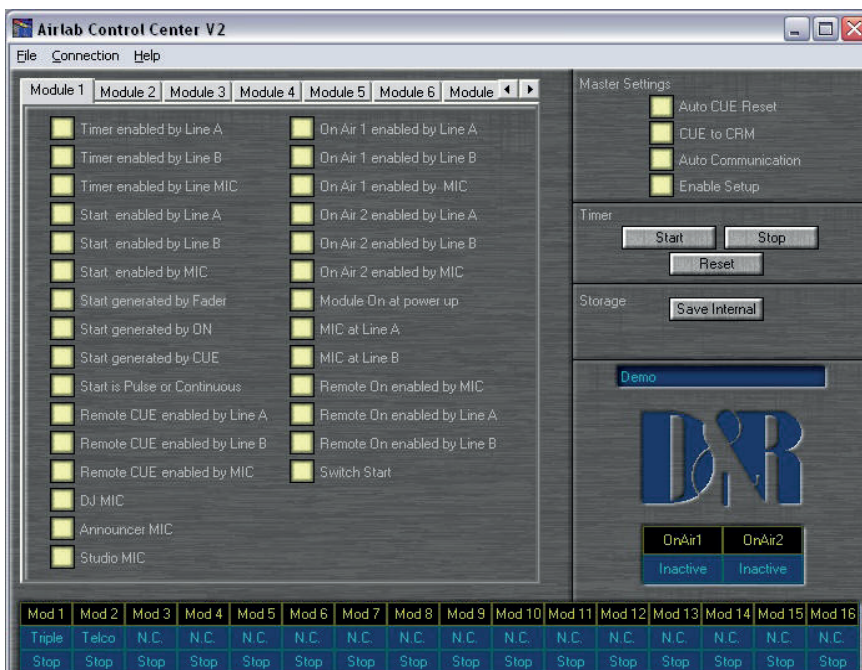
A BUILT IN TIMER MODULE EXTENDS THE POSSIBILITIES OF THE AIRLAB-DT.

There is a Timer function built in the AIRLAB-DT for time related measurements such as duration of an incoming/outgoing call. Timer set-up can be software controlled and stored.

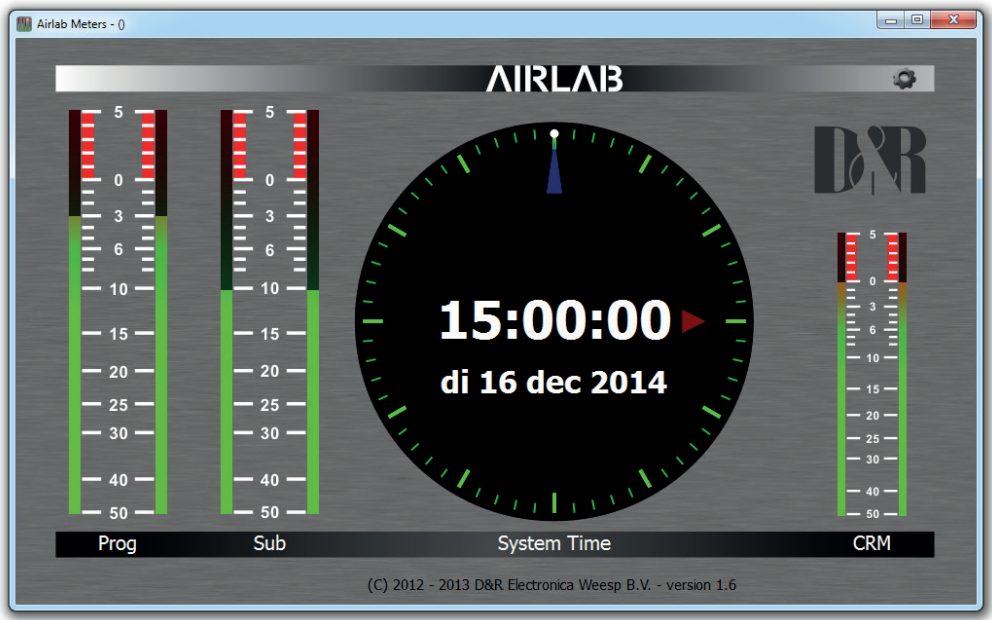
A VERY SERVICE FRIENDLY DESIGN.

Its high quality clean analog audio path with a minimum of hardware switches in the audio path is your guarantee that this is a reliable radio console for daily broadcast for many years to come. At the same time is this console built as a rock and very service friendly. The Airlab-DT is modular and modules can be replaced while on-air.

The electronics are designed and built with Surface Mount Technology (SMT) to guarantee ultimate reliability for your 24/7 production hours.



M e t e r i n g & S o f t w a r e



SOFTWARE

The AIRLAB-DT sends out control signals over USB, based on the HID protocol. This also means that the main output signals can be displayed on a TFT screen in a beautiful meter application.

Both Program and Sub stereo signals are shown on a high resolution PPM. A smaller separate stereo meter on the right hand side of the meter application shows all signals heard through the CRM speakers. At the same time this software application shows you a professional looking Radio clock that is synchronized with your local PC

SUMMARY

We hope to have given you an idea of the huge potential of this new modular AIRLAB-DT broadcast mixer with a wide choice of input control modules.

If you need more info than presented here in this brochure, visit our website www.dnrbroadcast.com and download the manual for even more in depth info.



SPECIFICATIONS

INPUTS:

Mic inp : bal. 2kOhm - 128dBr (40dB gain range plus 30dB of trim range)
Line inp : bal 10kOhm +/- 20dB gain range.
Telco input: (XLR) 10kOhm bal. 0dBu nominal.
CMRR : mic input max gain: 1kHz 85dB
Line inp : max gain 1 kHz 80dB

EQUALISATION:

+/- 12 dB @ 10kHz shelving
+/- 12 dB @ 3kHz bell curve
+/- 12 dB @ 60 Hz shelving
Low Cut: 80Hz, 12dB per octave (mic only)
Low Cut: 200Hz, 6 dB per octave (Telco only)
High Cut: 8 kHz, 6 dB per octave (Telco only)

OUTPUTS:

Left/Right : +6dBu electronically balanced (transformer balancing is an option)
Sub : +6dBu electronically balanced.
All other outputs: +6dBu unbalanced.

OVERALL:

Frequency response : 20-20.000 Hz +/-0.5dB
Harmonic distortion : 0.035% (VCA in, 2nd harm)
Crosstalk : less than -90dBr
Noise : - 86dBr
Headroom : + 22dB internal, 16dB on outputs
Mix-Minus rejection : @1kHz -60dB
Channel fader attenuation: 1kHz, 100dB

OPTIONS:

Triple input channels (Mic/Line/line)
Digital in/output modules
USB modules
Telco modules
VoIP modules
WiFi Channels (soon)

REMOTES:

All channel remotes are on stereo jack sockets. Start/Stop switching is electronically. Both ON-AIR 1 and 2 (red light) outputs are isolated by opto couplers.

DIMENSIONS AND WEIGHT

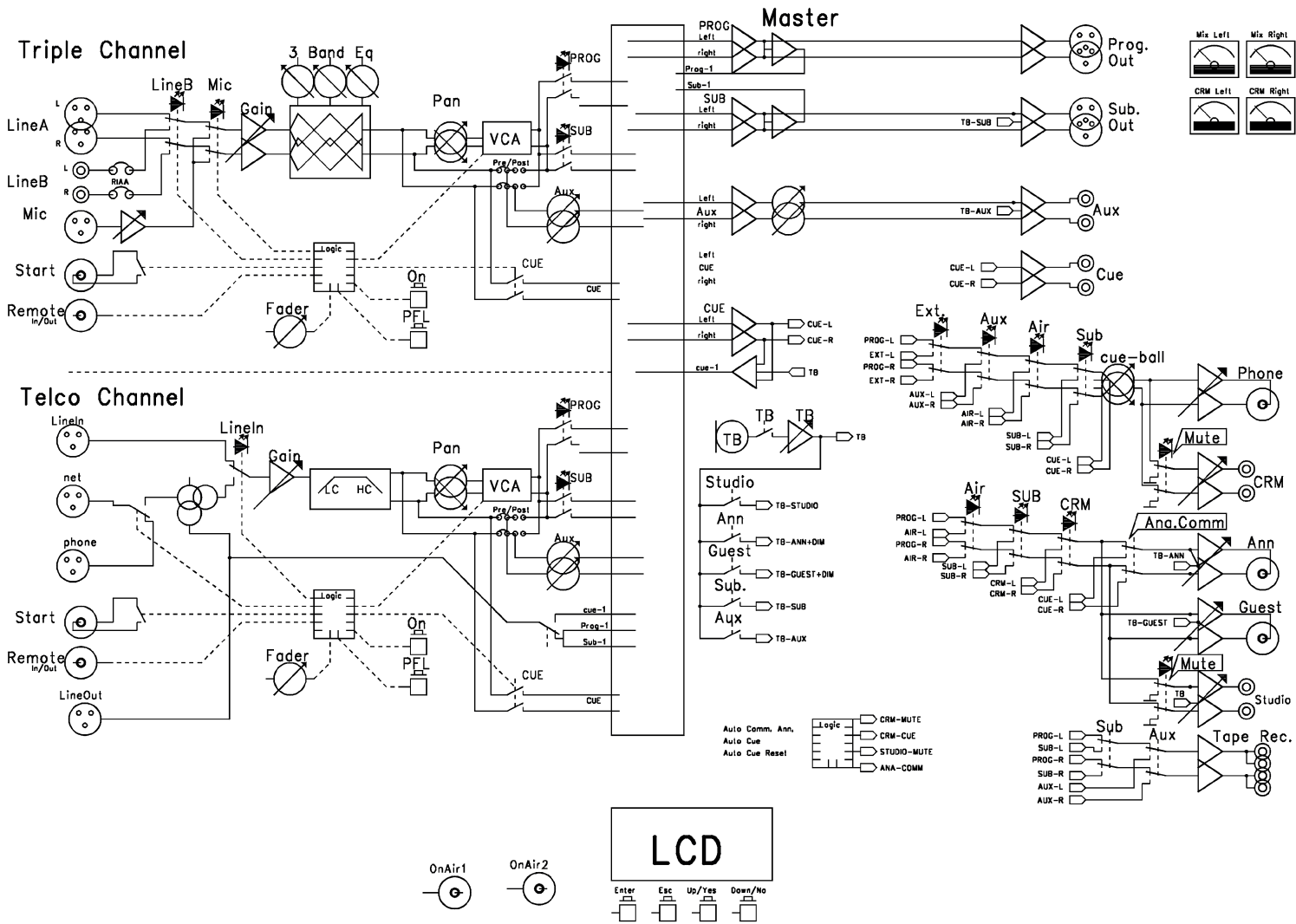
Weight : 26 kg / 58 Lbs
Drop through mounting hole dimensions : 590mm x 775mm

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Signal Flow



Feels good does more